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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,493	01/19/2005	Emil Edwin	613-91	8546
23117	7590	04/04/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			SHAH, SAMIR M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/507,493

Applicant(s)

EDWIN ET AL.

Examiner

Samir M. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/30/04; 6/13/05</u>   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see pages 7 and 8, filed on October 19, 2005, with respect to claims 1-12 have been fully considered and are persuasive. The 112 (2<sup>nd</sup>) rejection of claims 1-12 has been withdrawn.
2. Applicant's arguments with respect to claims 1, 4, 5, 6 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

3. The drawings are objected to because reference number "16" is used twice in figure 1 to denote "a spring" and another distinct structural element. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The disclosure is objected to because of the following informalities:

On page 9, line 5, delete "serve" and replace it with -- serves --.

On page 9, lines 34-35, delete "wheel 18" and replace it with -- wheel 8 --.

Appropriate correction is required.

***Claim Objections***

5. Claims 1 and 11 are objected to because of the following informalities:

As to claim 1, delete "being" and replace it with -- is -- (9<sup>th</sup> line of the claim).

As to claim 11, delete "whereby" and replace it with -- thereby -- (13<sup>th</sup> line of the claim).

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 8-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Whitehouse (US Patent 4,084,324 henceforth "Whitehouse").

As to claim 1, Whitehouse discloses in a patent entitled "Measuring instrument", a surface measurement apparatus for measuring deformation of a surface including a detector/transducer (13) capable of directly detecting changes in the radius of a pipe (column 5, lines 65-67); a plurality of guides/wheels (24) for guiding the detector along

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the pipe in a direction parallel to a longitudinal axis of the pipe (figures 4 and 5; column 8, line 13); the guides comprising rotatable members/wheels (24) spaced apart from the detector and arranged to contact a surface (15) of the pipe when the detector/transducer (13) is in contact with the pipe (figures 4 and 5), wherein said guides/wheels (24) are respectively provided on each side of the detector/transducer (13); the rotatable members/wheels (24) and the detector/transducer (13) being positioned substantially along an arc such that in use, the detector/transducer (13) and the guides/wheels (24) are in contact with the pipe surface (15) at different points around its circumference, and a circumferential distance between each said rotatable member of the guides/wheels (24) and the detector/transducer (13) is smaller than a radius of the arc (figure 5); whereby an output related to the deformation of the pipe surface (15) is derived from output of the detector/transducer (13) (column 5, lines 65-67).

As to claim 8, Whitehouse discloses transporting means/carriage (21), which may be hand held or operated by a suitable instrument, to transport the detector along the pipe (column 8, lines 64-67).

As to claims 9 and 10, Whitehouse discloses measuring the distance traveled by the apparatus along the pipe, wherein the distance traveled is determined by measuring the number of rotations of a rotatable member/wheel (24) engaged with the pipe using a device sensitive to the rotation of wheel (24) (column 8, lines 37-40).

As to claim 12, Whitehouse discloses a method of measuring deformation of a surface (15) of a pipe using the apparatus as described in the rejection to claim 1 above (column 3, lines 21-25).

8. Claims 1, 3, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bellwood (US Patent 4,903,413 henceforth "Bellwood").

As to claims 1 and 11, Bellwood discloses in a patent entitled "Surface profile measurement of workpieces", an apparatus for detecting deformation of a surface of a pipe/workpiece (10), including a detector/dynamic probe (18) capable of detecting changes in the radius of a pipe/workpiece (10) when placed in contact with the surface of the pipe/workpiece (10) (column 3, lines 46-67), said detector/dynamic probe (18) being moveable in a radial direction of the pipe at the point of contact (figure 1; column 3, lines 3-4); a guide assembly/probes (14, 16) capable of guiding the detector/dynamic probe (18) along the surface of the pipe/workpiece (10) in a direction parallel with the longitudinal axis of the pipe/workpiece (10), wherein the guide assembly/probes (14, 16) comprises rotatable members/foot (22, 24) provided on each side of the detector/dynamic probe (18) being positioned substantially along an arc such that in use, the detector/dynamic probe (18) and the rotatable members/foot (22, 24) are in contact with the pipe/workpiece (10) surface at different points around its circumference, a circumferential distance between each said rotatable member/foot (22, 24) and the detector/dynamic probe (18) being smaller than a radius of the arc (figure 1).

As to claim 3, Bellwood discloses detector/dynamic probe (18) arranged to be placed in contact with the surface of the pipe/workpiece (10) and is moveable in the

radial direction of the pipe such that the deformation of the pipe/workpiece (10) surface may be determined from the displacement of the detector/dynamic probe (10) (column 3, lines 3-7, lines 35-67).

As to claim 13, Bellwood discloses a method of measuring the deformation of a surface of a pipe/workpiece (10) using the apparatus as described in the rejection to claim 11 above (column 3, lines 35-68; column 4).

***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 2, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse or Bellwood as applied to claim 1 above, and further in view of Face (US Patent 5,535,143 henceforth "Face").

As to claim 2, Whitehouse/Bellwood fails to disclose a detector arranged to measure the distance between a region of the pipe adjacent the detector and a part of the apparatus.

Face discloses a detector/transducer (7)/sensing wheel (5) that is arranged to measure the distance between a region of the pipe adjacent the detector/transducer (7)/sensing wheel (5) and a part of the apparatus (column 4, lines 7-10; column 5, lines 32-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Whitehouse's/Bellwood's apparatus to include Face's detector arranged to measure the distance between a region of the pipe adjacent the

detector and a part of the apparatus because this would provide additional surface deformation-related measurements.

As to claim 5, Whitehouse/Bellwood fails to disclose a detector comprising a rotatable member that is arranged to roll over the surface of the pipe.

Face discloses a detector/transducer (7)/sensing wheel (5) that comprises a rotatable member/sensing wheel (5) that is arranged to roll over the surface of the pipe (figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Whitehouse's/Bellwood's apparatus to include Face's rotatable member that is arranged to roll over the surface of the pipe because this would allow the transducer to move easily, while contacting surface of the pipe.

As to claim 6, Whitehouse/Bellwood fails to disclose rotatable member of the detector is movably mounted in a housing and each said guide member is mounted on an arm extending laterally from the housing.

Face discloses a rotatable member/sensing wheel (5) of the detector/transducer (7)/sensing wheel (5)/moveable column (6) is movably mounted in a housing/rigid frame (2) and each said guide member/support wheels (3, 4) is mounted on an arm (of the housing/rigid frame (2)) extending laterally from the housing (figure 1; column 2, lines 64-67)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Whitehouse's/Bellwood's apparatus to include Face's



rotatable member of the detector is movably mounted in a housing and each said guide member is mounted on an arm extending laterally from the housing because this would

As to claim 7, Whitehouse/Bellwood fails to disclose measurement means for measuring the displacement of the rotatable member of the detector in relation to the housing.

Face discloses measurement means/transducer (7)/odometer (8) for measuring the displacement of the rotatable member/sensing wheel (5) of the detector/transducer (7)/sensing wheel (5)/moveable column (6) in relation to the housing/rigid frame (2) (column 3, lines 1-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Whitehouse's/Bellwood's apparatus to include Face's measurement means for measuring the displacement of the rotatable member of the detector in relation to the housing because this would provide addition surface-deformation related measurements.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse as applied to claim 1 above, and further in view of Patterson, Sr. et al. (US Patent 5,623,107 henceforth "Patterson").

As to claim 4, Whitehouse does not disclose guides/wheels (24) with magnets arranged to hold the apparatus in position against a steel pipe.

Patterson teaches an inspection device where the guide/trolley (1) with beam (2) uses magnetic wheel for attachment to a cylindrical surface (e.g. surface of a pipe).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Whitehouse's surface measurement apparatus to include magnetic wheels for attachment to a cylindrical surface when the surface is a metal/steel (turbine rotor pipe).

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 4,240,206 to Baresh et al.

US Patent 5,337,485 to Chien.

US Patent 1,845,199 to Schnuck.

US Patent 5,088,207 to Betsill et al.

US Patent 6,782,631 B1 to Face, III.

US Patent 6,820,347 B2 to Mellander.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

14. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir M. Shah whose telephone number is (571) 272-2671. The examiner can normally be reached on Monday-Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Samir Shah*  
SMS

3/31/2006

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